

Mid-Rivers

COMMUNICATIONS



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August 1, 2018

Via ECFS

Marlene H. Dortch, Secretary
Office of the Secretary
Federal Communications Commission
445 12th Street, SW, Room TW-A325
Washington, DC 20554

RE: Cable & Cellular Communications, LLC
Second Progress Report on Implementation of Indoor Location Accuracy Improvements
E911 Location Accuracy, PS Docket No. 07-114

Ms. Dortch:

Pursuant to 47 C.F.R. § 20.18(i)(4)(i) and (ii) of the Commission's Rules, Cable & Cellular Communications, LLC hereby submits its second progress report on implementation of indoor location accuracy improvements. Cable & Cellular Communications, LLC, is a wholly-owned subsidiary of Mid-Rivers Telephone Cooperative, Inc.

Should the Commission require additional information, it is welcome to contact the undersigned.



Michael Candelaria
General Manager/CEO

**Before the
Federal Communication Commission
Washington, D.C. 20554**

**In the Matter of
Indoor 911 Location Accuracy**

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PS Docket No. 07-114

**SECOND PROGRESS REPORT
OF CABLE & CELLULAR COMMUNICATIONS, LLC
AUGUST 2, 2018**

I. INTRODUCTION

In compliance with Section 20.18(i)(4)(i)-(ii) of the Federal Communications Commission's (FCC's) rules, Cable & Cellular Communications, LLC (C&CC) hereby submits its Second Progress Report on Indoor 911 Location Accuracy. This document summarizes C&CC's progress on implementation of the indoor location accuracy requirements.

C&CC is a non-nationwide CMRS provider with approximately 4,000 active wireless connections in rural and remote Eastern Montana. C&CC operates a cellular 1X/EVDO/CDMA network and a 4G LTE data network. C&CC has successfully deployed Wireless 911 services to several PSAP's in its service area, including E911 Phase I & Phase II and Text-to-911. As a small local provider, C&CC can work closely with each individual PSAP toward meeting their specific needs. C&CC has not deployed a VoLTE (Voice over LTE) platform for its customers and has no plans to do so at this time. C&CC does not serve any of the Test Cities or the top 25 or 50 CMA's.

II. HORIZONTAL LOCATION REQUIREMENTS

Non-nationwide CMRS providers are required to provide dispatchable location or x/y location within 50 meters for 40 percent of all wireless 911 calls within 2 years; and 50 percent of all wireless 911 calls within 3 years. "Dispatchable location" is the civic address of the calling party plus additional information such as floor, suite, apartment or similar information that may be needed to adequately identify the location of the calling party.

Based on C&CC's most recently reported live call data for the first and second quarters of 2018, C&CC provided "dispatchable location or x/y location within 50 meters" for over 70 percent of all wireless 911 calls in its reporting area of Custer County, Montana (the largest county within C&CC's footprint). This data is currently being obtained through GPS, hybrid, and AFLT positioning source method technologies.

To further improve its indoor location accuracy and insure compliance with the Commission's future benchmarks, C&CC will leverage Location Based Services (LBS) solutions and employ

heightened accuracy technologies for identifying an indoor wireless 911 caller's location. This includes solutions such as:

- Harnessing wireless handsets' ability to identify signals from Wi-Fi access points and Bluetooth low-energy beacons
- Deploying femtocells, Wi-Fi access points and Bluetooth beacons at indoor locations throughout the C&CC service area in various settings such as businesses, schools, restaurants, retail stores and sports venues

In accordance with the Parallel Path for Competitive Carriers' Improvement of E911 Location Accuracy Standards ("Parallel Path") submitted by the Competitive Carriers Association (CCA), Section 2(b), C&CC and Mid-Rivers plan to offer wireless consumer home products (such as Wi-Fi residential routers) with dispatchable home location technology. C&CC's parent company, Mid-Rivers Telephone Cooperative, Inc. ("Mid-Rivers"), is an Internet Service Provider to Custer County and to other areas of Eastern Montana where the company is also a CMRS provider. Mid-Rivers continues to deploy Wi-Fi access points at multiple indoor locations, both business and residential, that can be leveraged by C&CC for improved indoor location 911 accuracy.

Prior to the final implementation of the National Emergency Address Database (NEAD), C&CC will maintain its non-NEAD database for the media access control (MAC) address and Bluetooth Universally Unique Identifiers (UUIDs) connected on its network, and make such non-NEAD dispatchable location information available for delivery to PSAPs.

The Commission's horizontal accuracy benchmarks for years five and six, and Parallel Path Sections 2(d)-(f), are contingent on a provider's deployment of commercially-operating VoLTE platforms in the provider's network. C&CC has not yet determined its long-term technical implementation path for VoLTE, but will adhere to the Parallel Path Section 3(a)(ii):

"Non-nationwide carriers that do not have an operational VoLTE platform as of the date of this Agreement will conduct testing of OTDOA and A-GNSS within six months of such platform becoming operational, contingent upon receiving necessary cooperation from third-party vendor(s)/supplier(s)."

III. VERTICAL (Z-AXIS) LOCATION REQUIREMENTS

Within three years, all CMRS providers are required to make uncompensated barometric data available to PSAP's with respect to any 911 call placed from any handset that has the capability to deliver barometric sensor information. This rule "applies to devices with barometric sensors and delivery capability that the CMRS provider may choose to offer to consumers and does not require any CMRS provider to make such devices available to subscribers" (FCC 15-9 Para. 115).

C&CC's delivery of uncompensated barometric data to PSAPs from voice-capable handsets will be contingent upon the ability of C&CC to obtain handsets capable of delivering barometric sensor information.

C&CC is a non-nationwide CMRS provider that does not provide service or report quarterly live call data in any of the six test cities and does not serve any of the top 25 or 50 CMA's. C&CC's footprint falls within a group of counties with far less than 19.9 people per square mile as determined by the 2010 U.S. Census, and has a primarily rural morphology with an extremely low density of multi-story structures. The highest population density of a County within C&CC's footprint (Richland County, Montana) was 4.7 people per square mile per the 2010 U.S. Census.

IV. ENHANCED LOCATION ACCURACY PERFORMANCE ASSESSMENT

C&CC utilizes the services of third-party company, Comtech, to collect data for live 911 calls, in accordance with Parallel Path Section 5(a)(iii) for its legacy CDMA network (positioning source methods GPS, Hybrid, and AFLT). Assessment of OTDOA, A-GNSS and other future technologies will be contingent upon C&CC's deployment of VoLTE.

C&CC has verified based on its live call data that it is currently in compliance with the Commission's Indoor Location Accuracy requirements, meeting and exceeding benchmarks set for second- and third-year compliance. As required by the Commission's rules, live call data is collected and reported based on the largest county within C&CC's footprint, which is currently Custer County, Montana, a primarily rural area. C&CC has also obtained and reviewed the test bed data. The indoor location technologies used in C&CC's network are deployed consistently with the way they have been tested in the test bed.

V. COMPANY CONTACTS

Any questions regarding this plan and report may be directed to Erin Lutts at (406) 485-3301 or erin.lutts@midrivers.coop.